

## Brains for Barter

# Scientists Swap Their Knowledge For Stock in Promising Companies

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WASHINGTON—A half-dozen of the country's leading scientists, including three Nobel Prize winners, are launching an unusual invasion of the world of business and finance—and apparently with some success.

Their technique: Locate small, scientifically oriented companies, that appear to have a high growth potential as judged by the scientists' evaluation of the concerns' management and research efforts. Then, acquire a small stock interest in the companies, not by paying cash but by offering, in effect, to make their scientific talents and prestige available to the companies.

This "brains-for-stock" venture, organized under the name Quadri-Science, Inc., and based here, is strictly an extra-curricular activity for the scientists, all of whom still devote their major efforts to research, professorships and jobs. In the last 18 months, however, they've quietly acquired interests in three small companies and are actively scouring the country for additional investments.

### "Capitalize on Brain Power"

"We're trying to capitalize on brain power," explains Dr. Ralph Lapp, independent physicist, writer and lecturer who worked on the atomic bomb project and who serves as corporate secretary to Quadri-Science.

Just how well the scientists' formula works remains to be seen, of course. "We're pretty sure our approach is right but it all is still a gamble," concedes one Quadri-Science official.

The adventure would be unusual in any case, marking as it does an attempt by basic research scientists to try their hands in the business world. It is all the more notable, however, because of their reputations.

In addition to Dr. Lapp, the group consists of Dr. Harold Urey, University of California chemist, winner of the Nobel Prize for his discovery of heavy hydrogen and an authority on the origin of the earth, the moon and the solar system; Dr. Polykarp Kusch, Columbia University physicist who won the Nobel Prize for atomic measurements; Dr. Joshua Lederberg, Stanford University School of Medicine geneticist awarded the Nobel Prize for genetic research; Dr. James Van Allen, State University of Iowa physicist who was the first to

and Dr. Samuel K. Allison, director of the Enrico Fermi Institute for Nuclear Studies at the University of Chicago and a participant in the atomic bomb project.

Complementing this scientific talent are two other owners of Quadri-Science: Huntington Harris, member of a Chicago banking family and a businessman who, among other ventures, heads Press Intelligence, Inc., a Washington press clipping service, and Charles Tyroler II, senior partner of a Washington consulting firm called Counselors on National Problems and for some time an active participant in Democratic Party politics (he ran the late Sen. Kefauver's 1956 campaign for the Vice Presidency).

### Organized in 1962

Quadri-Science formally was organized in January 1962, at a time when, Dr. Lapp recalls, the stock market seemed to be rising and many small, science-oriented companies were making public issues of stock. Dr. Urey is chairman and Dr. Kusch president, but the focal point is a small suite of offices in Washington shared with Mr. Tyroler's consulting firm. There, Mr. Tyroler as treasurer and Dr. Lapp carry on most of the venture's day-to-day routine.

The venture is based on the rationale that the scientists, representing a pool of the various scientific disciplines, would be able to spot the main directions in which science and technology are heading. It then would be only one step further to spot which scientifically oriented companies have the most promising futures. The name Quadri-Science was chosen to indicate the four broad areas in which the scientists are primarily interested—earth sciences, oceanography, atmospheric and space research.

Their first two ventures, for example, indicate the scientists' personal knowledge of the present and future problems created by the so-called "information explosion." Institute for Scientific Information in Philadelphia, a privately held company with about 100 employees, is devoted to compiling indexes and other publications, with the aid of information processing and storing machines, that give scientists quick references to millions of scientific reports pouring from the world's laboratories.

### Reading Machine Concern

Somewhat related is Farrington Manufacturing Co., Needham, Mass., a publicly held company with 1962 sales of \$12.5 million. Farrington produces optical reading machines capable of rapidly reading and processing such data as credit card bills. It recently received a \$1 million contract from the Post Office for a mail reading and sorting machine.

The scientists' third venture, consummated earlier this month, is EON Corp., Brooklyn, N.Y., a small publicly held company with sales of about \$750,000 annually. The company produces a variety of electronic devices used by scientists. It made the radiation counters for the satellite used by Dr. Van Allen in his first studies of the radiation belts. It currently is testing a tiny radiation counter that can be implanted in a cancer and help measure its rate of growth before and after treatment.

Quadri-Science's basic formula of operation is what Dr. Lapp calls a "deal." When a promising company is located, a stock swap is negotiated with a specific number of shares of Quadri-Science offered for shares in the company. One or more of the Quadri-Science group then becomes a director and the company has access to the brains of the entire group. Such exchanges were negotiated with EON and Institute for Scientific Information. In the case of Farrington, however, Quadri-Science obtained its holdings through an exchange with a shareholder rather than the company itself.

### No Stock for Sale

The group organized with 500,000 shares authorized. So far, they've issued about 124,000, most of which are held by the Quadri-Science principals. Small blocks were issued in the acquisition of the EON, Farrington and ISI stock. The group, however, has no plans to sell any Quadri-Science stock to outsiders.

The scientists insist the Quadri-Science shares they offer for stock in other companies are more than pieces of paper representing the intangible value of pooled brain power. The Quadri-Science shares are offered on the premise that Quadri-Science may be a promising investment for the other companies. In addition to building up Quadri-Science's assets with stock holdings, the scientists also hope to develop projects, ideas and perhaps inventions on which they can capitalize.

Although the scientists are secretive about just how well they've done in the past two years, they do indicate that they've made some paper profits. Mr. Tyroler calculates that the value of Quadri-Science shares has increased about 50% every six months, but he declines to say how much the group initially invested.

The scientists' participation in a company's business is voluntary and part-time and is mainly in the form of ideas and suggestions. "We're not miracle men, by any means," says Dr. Allison. "We're mainly an extra pair of eyes and ears. For instance, tomorrow I'm going out to visit a Farrington plant and look things over. I'll go back and think about it, maybe I'll get an idea, maybe I won't, though I'll probably write a report on it."

### Benefits for Companies

For the companies engaged in a science-oriented business, the prestige of having a Nobel Prize winner on the board is valuable in itself. But, say the companies, there are other benefits.

"They (the Quadri-Science group) have a broad knowledge of what kind of commercial developments will be coming out of pure, basic research," explains Norville White, chief executive of Farrington. "In addition, they have a vast store of knowledge on what research has been done and they can save us a lot of money by preventing us from undertaking projects that already have been done by someone else."

"Just the other day," Mr. White adds, "a man came in with a new concept of doing something we've been working on. Dr. Allison agreed to take a look at it and what he says will have a big hearing on whether we go into it."

Eugene Garfield, president of Institute for Scientific Information, notes that the scientists are also intimately familiar with the tremendous problems of scientists trying to keep abreast of developments in their fields. "Just having their attitudes and opinions on the information problem is extremely valuable," he says.

Drs. Allison and Urey serve on the Farrington board while Drs. Lederberg and Kusch are on the Information Institute's board. The directors for EON haven't been chosen yet.

The Quadri-Science principals are extremely choosy about which companies they invest in. Mr. Tyroler notes that they studied about 60 corporations to find the three that they've linked up with so far.

### 'Compatible' Intellectuals

A prime requisite is that the company have a competent research staff. Another requirement is that the company's management be "intellectually compatible" with the Quadri-Science group. Although Dr. Lapp concedes this may sound somewhat snobbish, he explains that the group wouldn't work well with a management that didn't understand science and scientists.

He recalls that one promising "deal" with a relatively large company disintegrated when the president, during some after-dinner conversation, asked if scientists were certain that the planets actually existed. "It was a complete intellectual mis-match," says Dr. Lapp, who has accepted the existence of the planets for some time.

"We've also passed up a number of attractive financial deals because we felt the companies wanted us only for window dressing," he adds. The group called off talks with one company when they picked up hints that the company was using their reputation in an attempt to gain a space contract, Dr. Lapp says.

The scientists also are careful about any potential conflicts of interests. They intend to avoid linking up with competing companies. In addition, the scientists often serve as advisors and consultants to Federal agencies and have agreed that, if by some coincidence, they find themselves involved in a Federal project affecting one of their companies they'll disqualify themselves from the project.